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EC

SEQUENCE LISTING

Cahoon, Edgar B

<120> A Cytochrome P450 enzyme associated with the synthesis of delta-12-  
epoxy fatty acids

<130> BB1465 US NA

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<212> DNA

<213> Euphorbia lagascae

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Pro Pro Pro Gly Pro Trp Lys Phe Pro Ile Ile Gly Asn Leu Pro His  
35 40 45

Leu Leu Leu Thr Ser Asp Leu Gly His Glu Arg Phe Arg Ala Leu Ala  
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Gln Ile Tyr Gly Pro Val Met Ser Leu Gln Ile Gly Gln Val Ser Ala  
65 70 75 80

Val Val Ile Ser Ser Ala Glu Ala Ala Lys Glu Val Met Lys Thr Gln  
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Ala Asp Ala Phe Ala Gln Arg Pro Ile Val Leu Asp Ala Gln Ile Val  
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Phe Tyr Asn Arg Lys Asp Val Leu Phe Ala Ser Tyr Gly Asp His Trp  
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Arg Gln Met Lys Lys Ile Trp Ile Leu Glu Phe Leu Ser Ala Lys Lys  
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Val Gln Ser Ser Arg Leu Ile Arg Glu Glu Met Glu Asp Ala Ile  
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Thr Phe Leu Arg Ser Lys Ala Gly Ser Pro Val Asn Ile Thr Lys Ile  
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Ile Tyr Gly Ile Ile Ser Ile Met Ile Arg Thr Ser Val Gly Asn  
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Cys Lys Gln Lys Glu Arg Leu Leu Ser Val Ala Asp Ala Val Asn Glu  
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Ala Ala Thr Ser Phe Gly Thr Ala Asp Ala Phe Pro Thr Trp Lys Leu  
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Leu His Tyr Ile Ile Gly Ala Glu Ser Lys Pro Arg Arg Leu His Gln  
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Glu Ile Asp Asp Ile Leu Glu Glu Ile Leu Asn Glu His Lys Ala Asn  
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Lys Pro Phe Glu Ala Asp Asn Leu Met Asp Val Leu Leu Asn Leu Gln  
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Lys Asn Gly Asn Val Pro Val Pro Val Thr Asn Glu Ser Ile Lys Ala  
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Ser Val Leu Gln Met Phe Thr Ala Gly Ser Glu Thr Thr Ser Lys Ala  
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Thr Glu Trp Val Met Ala Glu Leu Met Lys Asn Pro Thr Glu Leu Arg  
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Lys Ala Gln Glu Glu Val Arg Gln Val Phe Gly Glu Met Gly Lys Val  
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Glu Thr Leu Arg Leu His Pro Pro Val Val Leu Ile Pro Arg Glu Cys  
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Arg Glu Thr Thr Arg Ile Asp Gly Tyr Glu Ile His Pro Asn Thr Arg  
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Glu Pro Gly Lys Phe Asn Pro Glu Arg Phe Lys Asp Cys Ala Ile Asp  
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Tyr Lys Gly Thr Thr Phe Glu Leu Val Pro Phe Gly Ala Gly Lys Arg  
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Ile Asn Leu Leu Tyr His Phe Asn Trp Glu Leu Ala Asp Gly Ile Thr  
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Pro Gln Thr Leu Asp Met Thr Glu Ala Ile Gly Gly Ala Leu Arg Lys  
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Pro Pro Gly Pro Trp Lys Leu Pro Phe Ile Gly Ser Leu His His Leu  
35 40 45

Ala Val Ala Gly Pro Leu Pro His His Gly Leu Lys Asn Leu Ala Lys  
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Leu Tyr Gly Pro Leu Met His Leu Arg Leu Gly Glu Ile Pro Thr Val  
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Ile Ile Ser Ser Pro Arg Met Ala Lys Glu Val Leu Lys Thr His Asp  
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Leu Ala Phe Ala Thr Arg Pro Lys Leu Val Val Ala Asp Ile Val His  
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Tyr Asp Ser Thr Asp Ile Ala Phe Ser Pro Tyr Gly Glu Tyr Trp Arg  
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Gln Ile Arg Lys Ile Cys Ile Leu Glu Leu Leu Ser Ala Lys Met Val  
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Lys Phe Phe Ser Ser Ile Arg Gln Asp Glu Leu Ser Met Met Val Ser  
145 150 155 160

Ser Ile Arg Thr Met Pro Asn Phe Pro Val Asn Leu Thr Asp Lys Ile  
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Phe Trp Phe Thr Ser Ser Val Thr Cys Arg Ser Ala Leu Gly Lys Ile  
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Cys Arg Asp Gln Asp Lys Leu Ile Ile Phe Met Arg Glu Ile Ile Ser  
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Leu Thr Gly Gly Phe Ser Ile Ala Asp Phe Phe Pro Thr Trp Lys Met  
210 215 220

Leu His Asp Val Gly Gly Ser Lys Thr Arg Leu Leu Lys Ala His Arg  
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Lys Ile Asp Glu Ile Leu Glu His Val Val Asn Glu His Lys Gln Asn  
245 250 255

Arg Ala Asp Gly Gln Lys Gly Asn Gly Glu Phe Gly Gly Glu Asp Leu  
260 265 270

Ile Asp Val Leu Leu Arg Val Arg Glu Ser Gly Glu Val Gln Ile Ser  
275 280 285

Ile Thr Asp Asp Asn Ile Lys Ser Ile Leu Val Asp Met Phe Ser Ala  
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Gly Ser Glu Thr Ser Ser Thr Thr Ile Ile Trp Ala Leu Ala Glu Met  
305 310 315 320

Met Lys Lys Pro Ser Val Leu Ala Lys Ala Gln Ala Glu Val Arg Gln  
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Val Leu Lys Glu Lys Lys Gly Phe Gln Gln Ile Asp Leu Asp Glu Leu  
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Lys Tyr Leu Lys Leu Val Ile Lys Glu Thr Leu Arg Met His Pro Pro  
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Ile Pro Leu Leu Val Pro Arg Glu Cys Met Lys Asp Thr Lys Ile Asp  
370 375 380

Gly Tyr Asn Ile Pro Phe Lys Thr Arg Val Ile Val Asn Ala Trp Ala  
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Ile Gly Arg Asp Pro Glu Ser Trp Asp Asp Pro Glu Ser Phe Ser Pro  
405 410 415

Glu Arg Phe Glu Asn Ser Ser Val Asp Phe Leu Gly Ser His His Gln  
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Phe Ile Pro Phe Gly Ala Gly Arg Arg Ile Cys Pro Gly Met Leu Phe  
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Gly Leu Ala Asn Val Gly Gln Pro Leu Ala Gln Leu Leu Tyr His Phe  
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Asp Arg Lys Leu Pro Asn Gly Gln Ser His Glu Asn Leu Asp Met Thr  
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